

Synthesis process of nanostring and nanopowder of RE hydroxide or oxide

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Resumen

Rare earth oxide material is dissolved in dense nitric acid, titrated with potassium hydroxide and made to pass through hydrothermal reaction at 100-250 deg.c inside one sealed container, so that monocrystal nanostring of RE hydroxide may be prepared. When the hydroxide is used as precursor, and through annealing at 400-500 deg.c, corresponding Re oxide nanostring may be prepared; and the hydroxide may be calcined at certain temperature to produce corresponding RE oxide nanopowder. When some other RE is doped, composite RE hydroxide, RE oxide nanostring or nanopowder may be prepared. The nanopowder has great specific surface area and the nanostring is anisotropic, so that they may find wide application in various fields.